WATERWAYS

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WATERWAYS is a semi-annual newsletter to inform the residents of Durham about various elements of Durham's stormwater management program. Public Education, Stormwater Infrastructure (drainage and flooding), and Water Quality are the three main areas in the Stormwater Services Division.

"Greener" Landscaping

Yards Blend Aesthetics and Stormwater Controls

Looking for a creative way to reduce stormwater runoff and improve water quality? Environmentally-friendly landscaping techniques such as rain gardens and stormwater wetlands may be the solution for you.

Rain gardens are vegetated areas that collect rainwater from drainage areas on your property. Rainwater is directed to the rain garden by pipes, hoses, or swales. Water soaks into the ground slowly, rather than flowing rapidly off the yard and into storm drains. This slow infiltration replenishes groundwater and removes pollutants such as phosphorous and nitrogen. Similarly, stormwater wetlands absorb nutrients and reduce the amount of runoff from your property. Both techniques also enhance wildlife habitat.

Durham resident Pete Schubert had a natural swale in his backyard that was always wet and mostly shady. Grass would not grow in the area, so Schubert built a "constructed wetland." The 16-foot wide pond is lined only by the clay soil beneath. The pond is planted in water-loving plants such as Water Lilies, Penny Wort, Arrow Arum, Pickerel Weed, and Golden Club. Water-tolerant plants surround the pond, which is fed by rainwater collected from the gutters. Mayapple and six species of ferns form the transition area from the pond to the rest of the landscape. Many of the wetland plants came from Schubert's adventures in rescuing plants from construction sites. The plants are native to North Carolina habitats.

What about mosquitoes? Schubert assures the wary that the resident frogs and dragonflies devour the mosquitoes. For Schubert, the appealing aspects of such a natural landscape include stormwater treatment and biodiversity. "Everything in the yard is planted for wildlife value," he explained.

A pond/wetland area with water-loving, native plants reduces runoff volume and absorbs nutrients.

Tips for a healthy yard and environment

- Develop healthy soil (try compost)
- Reduce lawn area by planting native plants
- Mow 3-4 inches high, often, and with sharp blades
- Water deeply but not too often
- Aerate for dense, deep roots
- Choose a grass type that thrives in your climate
- Use nontoxic pest control methods
- Minimize use of fertilizer and pesticides
- Leave grass clippings on your lawn

Greener Landscaping, cont.

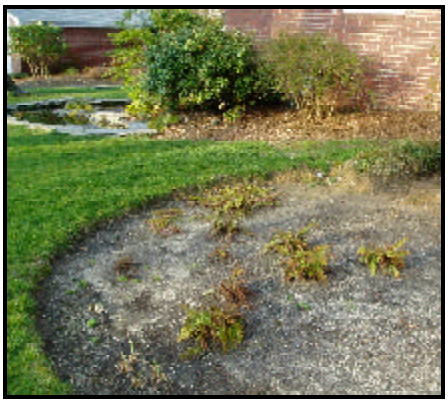
Northgate Park residents Cheryl Sweeney and Mike Shiflett decided to create a rain garden in their yard during the drought of 2002. They used two 65-gallon rain barrels to collect water from the roof and gutters, then routed the water through hoses and pipes to a depressed area containing water-tolerant plants. The rain garden was incorporated into the overall landscape, and was designed to reduce the surface area of grass in the yard.

A rain barrell collects water from the gutter and pipes it to the rain garden.

Sweeney and Shiflett cite many benefits of their improved landscape: less grass to mow and water, less stormwater runoff, and more groundwater recharge. Sweeney noted how much "happier" the trees in the yard are now that more water is available to the roots.

To construct the half-moon shaped rain garden, Shiflett dug out two feet of dirt and replaced it with a more permeable mix: 50% sand, 40% leaf mold, and 10% fine pine bark. (The dirt was used to create a vegetated berm on the edge of the property.) The garden is designed to drain runoff from a major storm within a few hours.

Sweeny chose a variety of plants for the garden that can withstand dry conditions but do not mind "getting their feet wet." Included are several types of ferns, hostas, Canna Lilies, Creeping Jenny, Siberian Iris, Houttuynia, and Sedums.



Rain water discharges into the rain garden through a small pipe and soaks into the ground rapidly.

Both yards incorporate "green" design elements into an aesthetically-pleasing landscape. Benefits such as water conservation, protecting water quality, and reducing chemical inputs make these lawns Durham eco-models.

Visit our website (see below) for more information.

Little Lick Creek Watershed Plan

Six City of Durham Stormwater Services staff members recently spent a week assisting with a stream assessment in the Little Lick Creek watershed. They walked local streams and noted current conditions and potential sources of pollution.

The assessment was part of an effort to develop a local watershed plan for the area. The State of North Carolina has listed Little Lick Creek as an "impaired" stream because water quality is poor and the creek does not adequately support aquatic life. The watershed plan will create a blueprint for restoring water quality and improving natural conditions for people living in the watershed.

The stream assessment revealed many sources of pollution, including tailpipes from sand filter systems that discharge directly to streams and trash dump sites. Identifying where and how the stream is being impaired will help the project team prioritize areas for restoration. Community members who have an interest in the plan are invited to participate.

The Little Lick Watershed Plan is coordinated by the Upper Neuse River Basin Association, with funding from the NC Eco-systems Enhancement Program. For more information or to become involved, visit the project website: http://www.unrba.org/littlelick.